

PHASE I

CONTAMINATION REPORT

PRELIMINARY RISK ASSESSMENT

LAND OFF ELLESMERE LANE

PENLEY

WREXHAM

Preliminary Risk Assessment Report

The purpose of this report is to establish the previous uses of the site under consideration or land nearby or adjacent to it, and to identify potential sources of contamination, receptors and pathways.

1. Proposed Development:

The proposal is for a residential housing development on an area of land adjacent to Ellesmere Lane, Penley, Wrexham.

The applicant and owner of the site is Mr. R. Evison.

The proposed houses are a mix of terraced and semi-detached dwellings with associated gardens, parking and shared vehicle access.

The unit breakdown is 38No. 3 bed terrace/semi-detached properties, 25No. 2 bed terrace properties and 5No. 4/5 bed detached properties. Total 68No. properties.

This report forms part of an outline planning application submission for the proposal.

The primary objective of the desk study is to identify potential environmental and geotechnical issues that may represent a constraint to the proposed development of the site. The findings of this assessment can be used to determine, if required, the scope of a follow on Phase 2 intrusive site investigation.

The proposed site development is shown on Bower Edleston Architects Drawing No. 6509 02.

2. Site Walkover

A walkover survey was carried out on 11th February 2014 to identify pollution linkages not evident from the following desk top study.

No potentially contaminative land uses could be discerned on the site.

Vegetation within the surrounding area showed no sign of stress.

No presence of Japanese Knotweed noticed.

Photographs of the site and Photographic Key Plan (Drg. No. 6509 SK01) are presented in Appendix A1.

3. Site Setting

Site Location

The site is situated off Ellesmere Lane, Penley, Wrexham at site center National Grid Reference 341558, 339472 as shown on the Site Location Plan Drawing 6509 SK02 in Appendix A2.

Site Description:

The site covers approximately 2.55 hectares and comprises a single parcel of agricultural land.

The land appears to be relatively flat with few notable features.

At the time of the walkover the land was fallow.

The site is fronted by Ellesmere Lane on its south eastern edge for a distance of approximately 100m from the junction with Tudor Drive and a residential property called Wilmaye. The boundary being defined by a hedge.

Immediately to the north of Wilmaye is Big Green Farm at the north east corner of the site.

The north boundary of the site is formed by a hedge which separates it from open countryside beyond.

The boundary on the western fringe is formed by a hedge which separates the site from a heavily wooded area of deciduous species.

There is an isolated residential property on Tudor Drive near to its junction with Ellesmere Lane called The Lodge. The curtilage of this property runs alongside Tudor Drive and separates the site Tudor Drive.

Access to the site is currently gained via a field gate with verge crossing located at the junction of Ellesmere Lane and Tudor Drive.

A public footpath (ROW No.3) traverses the site with access gained at the junction of Ellesmere Lane and Tudor Drive.

An overhead power line traverses the site supported by timber poles and crosses the south east corner.

Refer to Drawing No. 6509 SK03 for the latest available aerial photograph of site in Appendix A2.

Surrounding Area:

Penley is a rural village with a dispersed settlement in the County Borough of Wrexham, in Wales close to the border with Shropshire, England.

It is located 4.5km east of Overton on the A539.

It is set within the western section of the English Maelor landscape character area which comprises undulating lowland farmland and small villages.

Details of Desk Study Researches Undertaken

A desk study to determine the nature of the site and its surroundings including current and former land uses, geology, hydrogeology, hydrology, and geo-environmental data and develop an initial conceptual site model.

To identify and quantify any potential risks posed to future site users and the surrounding environment in terms of contamination.

To develop an outline remedial action plan which addresses any potential contamination risks.

4. Site Historical Mapping

Historical O.S. Maps

The historical usage of the site and surrounding land has been researched and is based on historic mapping.

1878	The site appears to be in open countryside. The site boundaries are clearly defined. There are no buildings present on the site. A track is shown to traverse the site on the line of present public footpath. There is a feature located near to the centre of the site which possible
------	---

represents a pond.

Ellesmere Lane and Tudor Drive are present.

Big Green Farm is not present.

The Lodge is present.

A pond is indicated immediately beyond the north west corner of the site.

- 1914 No significant changes.
The pond within the site is now clearly defined.
- 1954 No significant changes within the site.
Big Green Farm is now present.
A large hospital complex is present on land to south and west of site.
This was a former US Army General Hospital which subsequently became Llannerch Panna No.11 Polish Hospital.
- 1980 The pond within the site is no longer present.
Wilmaye is now present.
The hospital is no longer present and has been replaced by a residential development to the south of Tudor Drive.

Refer to Drawings No. 6509 SK04 to SK07 in Appendix A3 for details.

5. Site Historical Aerial Photography

A Historical aerial photograph for the site dated 1999 shows the site is in open agricultural land the only significant change since the 1980 historical mapping was produced is that the residential development south of Tudor Drive has been extended.

Refer to Drawings 6509 SK08 in Appendix A4 for details.

6. Geology

The British Geological Survey Open Geoscience records were inspected to establish the geology for the area.

The anticipated solid geology consists of Helsby Sandstone Formation - Sandstone, Pebbly (gravelly). Sedimentary Bedrock formed approximately 237 to 251 million years ago in the Triassic Period. Local environment previously dominated by rivers.

These rocks were formed from rivers depositing mainly sand and gravel detrital material in channels to form river terrace deposits, with fine silt and clay from overbank floods forming floodplain alluvium, and some bogs depositing peat; includes estuarine and coastal plain deposits mapped as alluvium.

The anticipated superficial drift deposits comprise Till, Devensian - Diamicton. Superficial Deposits formed up to 2 million years ago in the Quaternary Period. Local environment previously dominated by ice age conditions.

These deposits were formed in cold periods with Ice Age glaciers scouring the landscape and depositing moraines of till with outwash sand and gravel deposits from seasonal and post glacial melt waters.

Refer to Drawing No. 6509 SK09 for solid geology and 6510 SK09 for superficial deposits in Appendix A5.

The nearest borehole the site is located at The Grange, Penley at National Grid Reference 341650,339740 and confirms the drift deposits detailed. Borehole log data included in Appendix A5.

7. Hydrology

The nearest water course is a tributary of Emral Brook which is located approximately 430m to the south west of the site at its closest.

The nearest mapped surface water feature is a pond located at the north west corner of the site.

Refer to Drawing No. 6509 SK11 in Appendix A6.

8. Hydrogeology

Unproductive Strata

These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow.

Note: We are only able to display the principal and secondary aquifers as coloured areas on the maps. All uncoloured areas on the bedrock designation map will be unproductive strata. However, for uncoloured areas on the

superficial (drift) designation map you will not be able to distinguish between areas of unproductive strata and areas where no drift is present. To do this you will need to consult the published geological survey maps.

The Environment Agency Aquifer Map - Superficial Deposits shows that the superficial deposits on the site form an unproductive strata with negligible significance for water supply or river base flow.

Refer to Drawing No. 6509 SK12 in Appendix A7.

The Environment Agency Aquifer Map – Bedrock Designation indicate that the site overlies a Principal Aquifer which comprise layers of rock or drift deposits that have high inter-granular and/or fracture permeability - meaning they usually provide a high level of water storage. They may support water supply and/or river base flow on a strategic scale. In most cases, principal aquifers are aquifers previously designated as major aquifer.

Refer to Drawing No. 6509 SK13 in Appendix A7.

9. Site Drainage

There was no evidence of field drainage during the site walkover. There was some evidence of surface water ponding. However this was following a prolonged period of extremely wet weather.

10. Flood Risk Assessment

The site is not on a flood plain or at risk from flooding from river or sea without defences or from an extreme flood according to the Environment Flood Risk Map.

Refer to Drawing No. 6509 SK14 in Appendix A8.

11. Groundwater Source Protection Zones, Groundwater Vulnerability Zones & Nitrate Vulnerability Zones

Groundwater Source Protection Zones

A search of the Environment Agency database was undertaken to establish if any groundwater source protection zones exist in the area of the proposed development site.

The Environment Agency divides groundwater source catchments into four zones which are defined as follows:

SPZ1 – Inner protection zone

Defined as the 50 day travel time from any point below the water table to the source. This zone has a minimum radius of 50 metres.

SPZ2 – Outer protection zone

Defined by a 400 day travel time from a point below the water table. The previous methodology gave an option to define SPZ2 as the minimum recharge area required to support 25 per cent of the protected yield. This option is no longer available in defining new SPZs and instead this zone has a minimum radius of 250 or 500 metres around the source, depending on the size of the abstraction.

SPZ3 – Source catchment protection zone

A fourth zone SPZ4 or 'Zone of Special Interest' was previously defined for some sources. SPZ4 usually represented a surface water catchment which drains into the aquifer feeding the groundwater supply (i.e. catchment draining to a disappearing stream). In the future this zone will be incorporated into one of the other zones, SPZ 1, 2 or 3, whichever is appropriate in the particular case, or become a safeguard zone.

According to the Environment Agency database there are no groundwater protection zones in the area of the site.

The nearest groundwater source protection zone to the application site are indicated on Drawing No. 6509 15.

Groundwater Vulnerability Zones

A search of the Environment Agency database was undertaken to establish if any groundwater vulnerability zones exist in the area of the proposed development site.

The site is in an area which is defined as a major aquifer with low vulnerability.

The groundwater vulnerability zones near to the application site are indicated on Drawing No. 6509 SK16.

Nitrate Vulnerability Zones

The nitrate pollution prevention regulations bring into force the European Commission nitrates directive. The latest review came into force on 17 May 2013.

The regulations mean that land that drains into waters polluted by nitrates are designated as Nitrate Vulnerable Zones

A search of the Environment Agency database was undertaken to establish if the proposed site is in an area which is defined as a nitrate vulnerable zone.

The site is not in a surface water nitrate vulnerability zone.

Refer to Drawing No. 6509 SK17 in Appendix A9.

12. Waste Disposal activities

A search of the Environment Agency database was undertaken to establish if there are any authorised landfill sites or historical landfill sites in the vicinity of the application site.

There are no authorised sites listed on the Environment Agency database within close proximity the application site.

The nearest authorised landfill site is at The Sawmills, Elson, Ellesmere, Shropshire, SY12 9JW operated by E T C Sawmills Ltd, located 4.5km to the south west.

The nearest historic landfill site is at Cae Dyah Lane Wrexham located 3.3 km to the north west.

Refer to Drawing No. 6509 SK18 in Appendix A10 for locations of site and detail listing.

13. Pollution Incidents

According to the Environment Agency database there are no reported pollution incidents affecting air, land or water within 2km of the site.

The nearest pollution incident occurred at Park Hall 2.3 km to the south west and was classified as significant.

Refer to Drawing No. 6509 SK19 in Appendix A11.

14. Radon

The percentage of houses at or above the action level is less than 1% based on information obtained from Public Health England Indicative Atlas of Radon in England & Wales (HPA-RPD-033).

Refer to Drawing No. 6509 SK20 in Appendix A12.

15. Defra MAGIC Interactive Mapping Data

The key data for the site extracted from the interactive map is included in full detail in Appendix A13 and is summarised as follows:

Slowly permeable seasonally wet slightly acid base-rich loamy and clayey soils with impeded drainage and of moderate fertility.

16. Mining

In view of the geology already detailed the risks associated with coal mining can be discounted.

17. Potential Contaminative Land Use – On Site & Surrounding Area

Based on current and previous uses of the site there is no evidence of any potential contaminative land use on the site.

Anecdotal evidence suggests that organic material such as manure has been spread on the site.

There are no recorded releases of pollution in the vicinity of the application site.

18. Potential Contaminate Receptors

It is envisaged that the receptors of potential contamination associated with the site are:

End Users – based on the proposed residential end use, the critical receptor is considered to be the young female child.

Neighbouring buildings – the residential properties surrounding the site could be considered to be at risk due to their proximity.

Surface water – The tributary to Emral Brook is not considered a potential contaminate receptor due to its distance from the site and topography relative to the site.

Groundwater – underlying geology is classified as a low productivity aquifer therefore the site is not considered to pose a significant risk to groundwater.

Construction workers – short term exposure to be addressed by appropriate use of PPE and health and safety measures.

19. Potential Contaminate Pathways

For residential end use the following potential pathways:

Dermal exposure

Inhalation of soil or dust

Inhalation of soil vapour

Ingestion of soil

Ingestion of soil attached to vegetables

Ingestion of contaminated vegetables

Preliminary Conceptual Site Model

Source	Possible Pathway	Receptors	Plausible	Justification
Organic contaminants beneath site from its former use as agricultural land	Accidental ingestion, dermal contact, inhalation of dust, vegetable up-take	Future residential site users	Y/N	The risk to future residential site users from the site's current and former uses is considered to be very low.
	Leaching from contaminated soil, migration of contaminated surface water/groundwater through made ground, permeable strata	Surface water (tributary to Emral Brook)	N	Given the distance to the nearest watercourse and topography the site is not considered to pose a significant risk to surface water.
	Contact with contaminated water	Principal Aquifer Low Vulnerability	N	Based on the site's history and that the site is underlain by superficial deposits which provide an unproductive strata the site is not considered to pose a significant risk to groundwater.

Notes:

Y Yes: Desk study information sufficient to identify plausible pollutant linkage

N No: Desk study information sufficient to discount plausible pollutant linkage.

Y/N Yes/No: Potentially complete linkage. Further investigation required to confirm.

20. Recommendations

The preliminary site conceptual model identified the following plausible pollutant linkage:

- Organic contaminants beneath site from its former agricultural use.

This assessment is a preliminary risk assessment intended to give an indication as to the need for further assessment of the site and is submitted in support of an outline planning application.

It is considered that the potential presence of contamination on site is extremely low to insignificant.

The desk study has not highlighted any areas of concern with regard to pollution or contamination within the site itself.

The walkover survey identified no potential sources of contamination across the site.

It is therefore recommended that the site is fit for residential use, the site poses no risk to the surrounding receptors and it is not at risk from previous surrounding land use, or present land uses.

No further investigation is recommended.

Contamination Report

Preliminary Risk Assessment

Appendix A

Appendix A1

Site Photographs & Key Plan



Ordnance Survey (c) Crown Copyright 2014. All rights reserved. Licence number 100022432

PROJECT
LAND OFF ELLESMERE LANE, PENLEY

TITLE
PHOTOGRAPHIC KEY PLAN

SCALE	1:125000A4	DATE	FEB 2014	REVISION	

LEGEND

(X) PHOTOGRAPH No., POSITION, DIRECTION

BOWER EDELESTON
ARCHITECTS

SWEETBRIAR HALL, NANTWICH, CHESHIRE CW5 3RW
TELEPHONE: 01270 424129 FACSIMILE: 01270 427684
EMAIL: A.D.M.I.N @ BOWER - EDELESTON . C O M
WEBSITE: WWW . BOWER - EDELESTON . C O M



PHOTOGRAPH 1



PHOTOGRAPH 2



PHOTOGRAPH 3



PHOTOGRAPH 4



PHOTOGRAPH 5



PHOTOGRAPH 6



PHOTOGRAPH 7



PHOTOGRAPH 8



PHOTOGRAPH 9



PHOTOGRAPH 10



PHOTOGRAPH 11



PHOTOGRAPH 12



PHOTOGRAPH 13



PHOTOGRAPH 14



PHOTOGRAPH 15



PHOTOGRAPH 16



PHOTOGRAPH 17



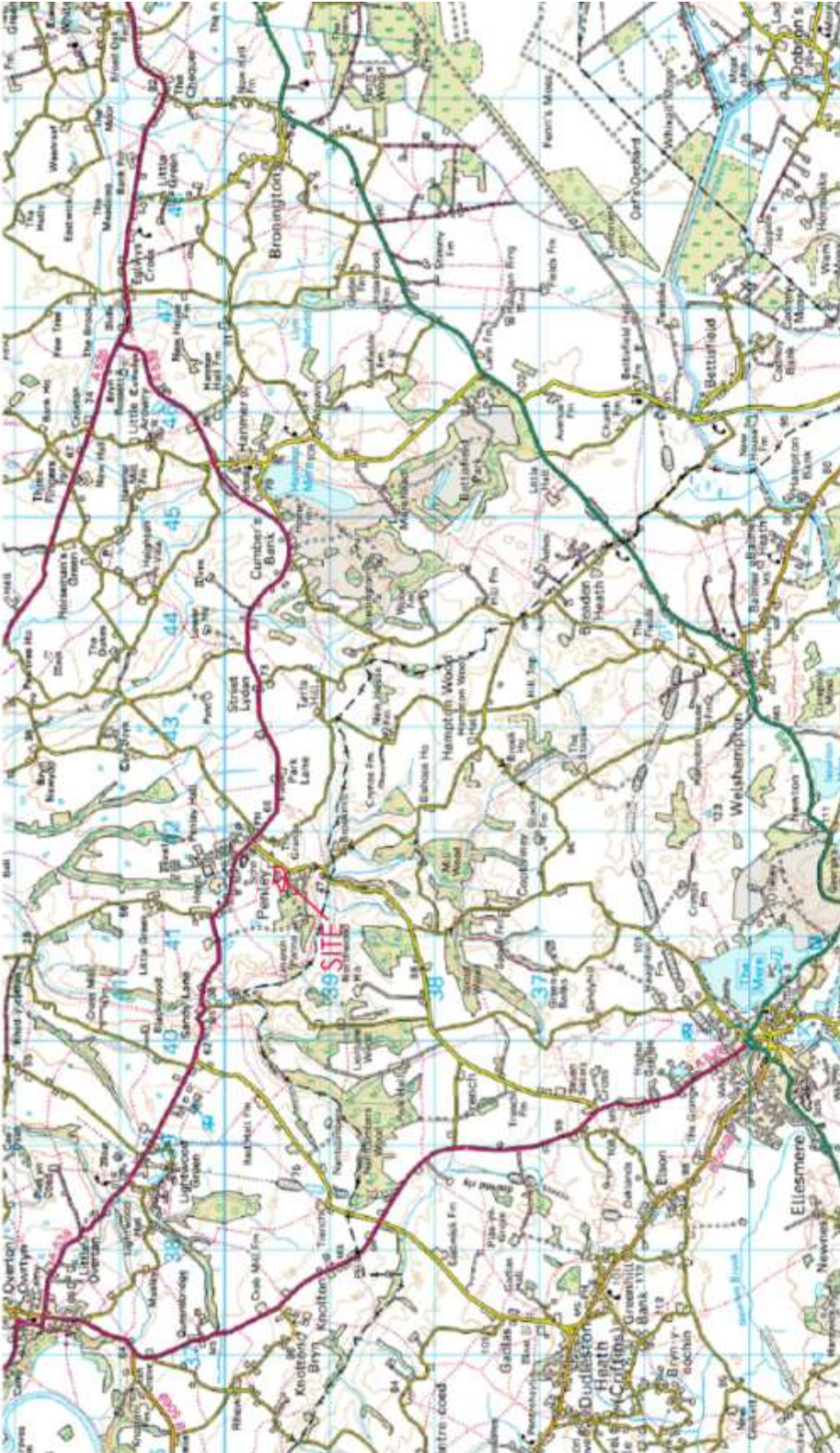
PHOTOGRAPH 18



PHOTOGRAPH 19

Appendix A2

Site Location Plan & Current Available Aerial Mapping



LAND OFF ELLESMERE LANE, PENLEY

SITE LOCATION PLAN

SCALE 1:125000
DATE FEB 2014
DRAFTER 4509 SK02

DRAWN BY MLT
SCALE
REVISION

BOWER EDLESTON
ARCHITECTS

SWEETBRIAR HALL, NANTWICH, CHESHIRE CW5 3RW
TELEPHONE: 01270 424129 FACSIMILE: 01270 427684
EMAIL: A.D.M.I.N @ BOWER - EDLESTON . C O M
WEBSITE: WWW . BOWER - EDLESTON . C O M



PROJECT
LAND OFF ELLESMERE LANE, PENLEY

TITLE
SITE AERIAL MAPPING

SCALE 1:125000A4
DATE FEB 2014
DWG NO 4509 SK03

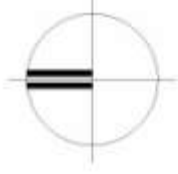
DRAWN BY MLT
CHECKED
REVISION

BOWER EDLESTON
ARCHITECTS

SWEETBRIAR HALL, NANTWICH, CHESHIRE CW5 3RW
TELEPHONE: 01270 424129 FACSIMILE: 01270 427684
EMAIL: ADMIN@BOWER-EDLESTON.COM
WEBSITE: WWW.BOWER-EDLESTON.COM

Appendix A3

Historical O.S. Maps



Landmark Historical Map
County: FLINTSHIRE
Published Date(s): 1878
Originally plotted at: 1:10,560

PROJECT
LAND OFF ELLESMERE LANE, PENLEY

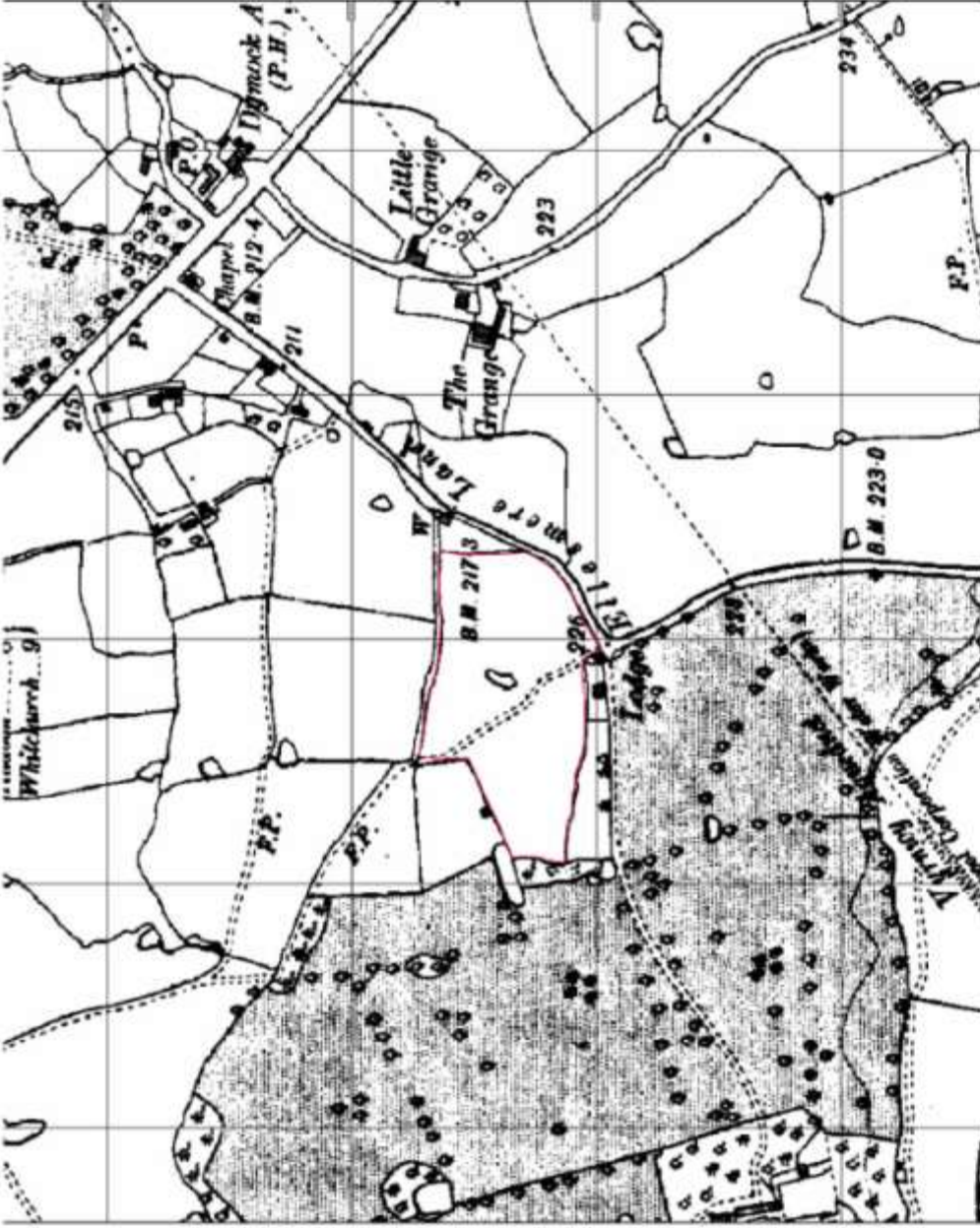
TITLE
HISTORICAL MAPPING 1878

SCALE 1:5,000E/A4
DATE FEB 2014
DWG NO 4509 SX04

DRAWN BY MLT
CHECKED
REVISION

SWEETBRIAR HALL, NANTWICH, CHESHIRE CW5 3RW
TELEPHONE: 01270 424129 FACSIMILE: 01270 427684
EMAIL: A.D.M.I.N @ BOWER-EDLESTON.COM
WEBSITE: WWW.BOWER-EDLESTON.COM

BOWER EDLESTON
ARCHITECTS



LAND OFF ELLESMERE LANE, PENLEY

HISTORICAL MAPPING 1914

SCALE 1:5,000/EA
DATE FEB 2014
DMS NO 4509 SX05

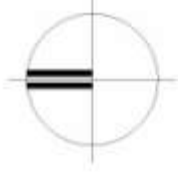
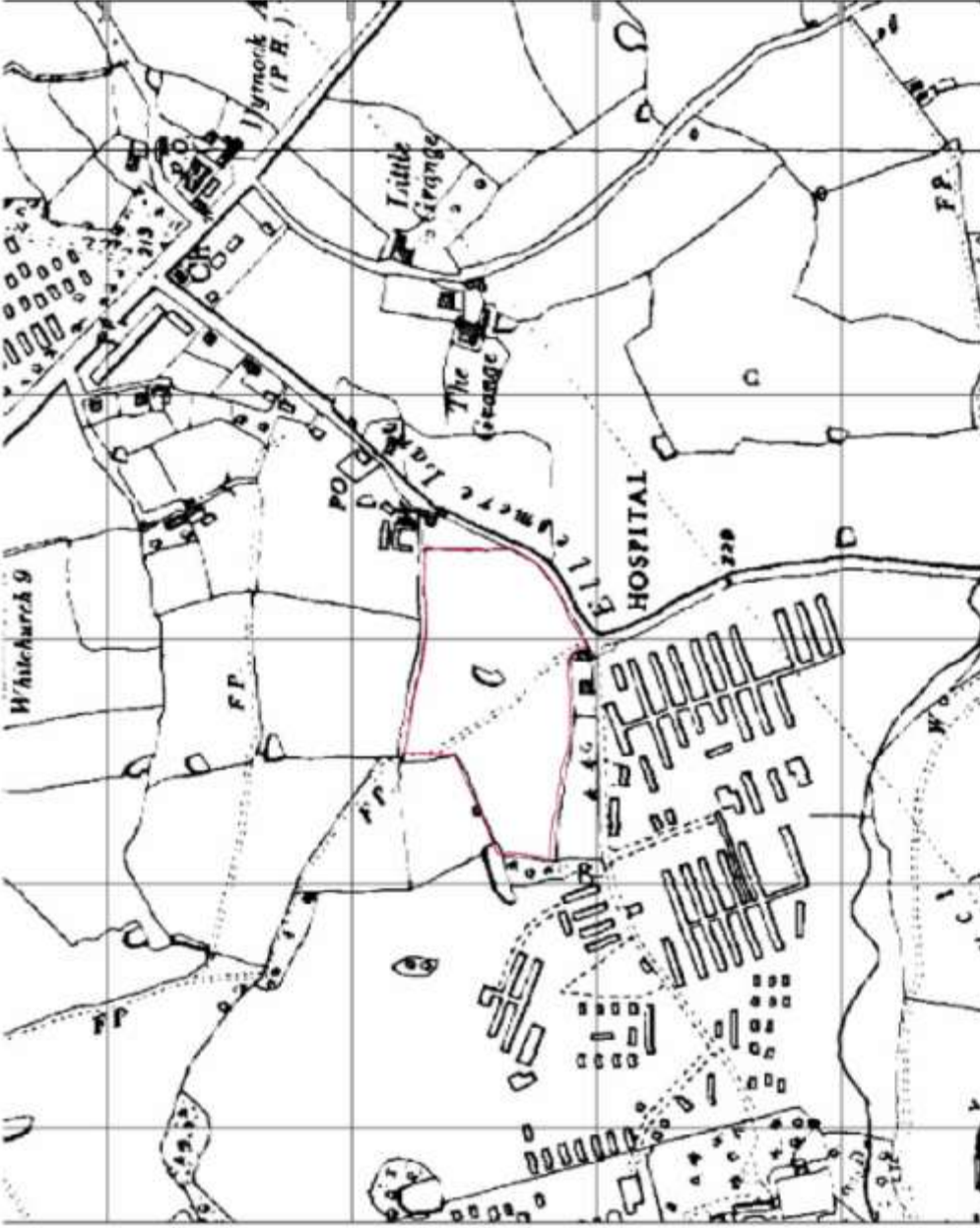
DEVELOPER MFL
EAGLE
REVISION

SWEETBRIAR HALL, NANTWICH, CHESHIRE CW5 3RW
TELEPHONE: 01270 424129 FACSIMILE: 01270 427684
EMAIL: A.D.M.I.N @ BOWER - EDLESTON . C O M
WEBSITE: WWW . BOWER - EDLESTON . C O M

BOWER EDLESTON
ARCHITECTS



Landmark Historical Map
County: FLINTSHIRE
Published Date(s): 1914
Originally plotted at: 1:10,560



Landmark Historical Map
Mapping Epoch 5
Published Date(s): 1954
Originally plotted at: 1:10,560

PROJECT: LAND OFF ELLESMERE LANE, PENLEY

TITLE: HISTORICAL MAPPING 1954

SCALE: 1:5,000E/A4
DATE: FEB 2014
DWG NO: 4509 3X06

DRAWN BY: MLT
CHECKED BY: BAC
REVISION:

SWEETBRIAR HALL, NANTWICH, CHESHIRE CW5 3RW
TELEPHONE: 01270 424129 FACSIMILE: 01270 427684
EMAIL: L.A.D.M.I.N. @ BOWER-EDLESTON.COM
WEBSITE: WWW.BOWER-EDLESTON.COM

BOWER EDLESTON
ARCHITECTS



PROJECT
LAND OFF ELLESMERE LANE, PENLEY
TITLE
HISTORICAL MAPPING 1980

SCALE 1:5,000E/M
DATE FEB 2014
DWG NO 4509 SX07

DRAWN BY MLT
CHECKED
REVISION

SWEETBRIAR HALL, NANTWICH, CHESHIRE CW5 3RW
TELEPHONE: 01270 424129 FACSIMILE: 01270 427684
EMAIL: ADMIN@BOWER-EDLESTON.COM
WEBSITE: WWW.BOWER-EDLESTON.COM



Landmark Historical Map
Mapping: Epoch 5
Published Date(s): 1980
Originally plotted at: 1:10,000

BOWER EDLESTON
ARCHITECTS

Appendix A4

Site Historical Aerial Photographs



PROJECT
LAND OFF ELLESMERE LANE, PENLEY

TITLE
HISTORICAL AERIAL MAPPING 1990

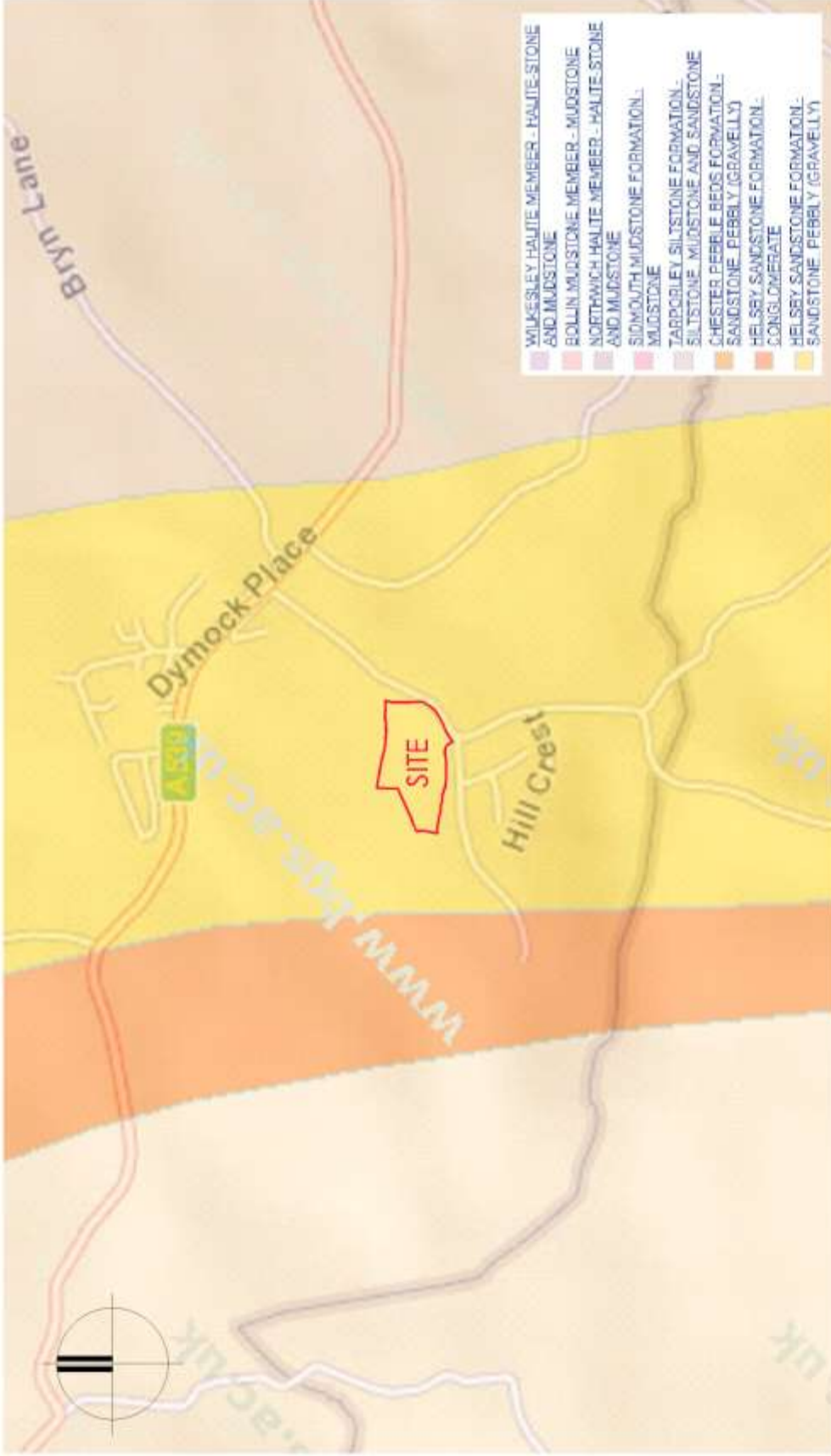
SCALE 1:5,000 @ A4
DATE FEB 2014
DRAWN BY MLT
STAGE
REVISION

BOWER EDLESTON
ARCHITECTS

SWEETRIAR HALL, NANTWICH, CHESHIRE CW5 5RW
TELEPHONE: 01270 624129 FACSIMILE: 01270 627684
EMAIL: ADMIN@BOWER-EDLESTON.COM
WEBSITE: WWW.BOWER-EDLESTON.COM

Appendix A5

Geology (Solid & Superficial)



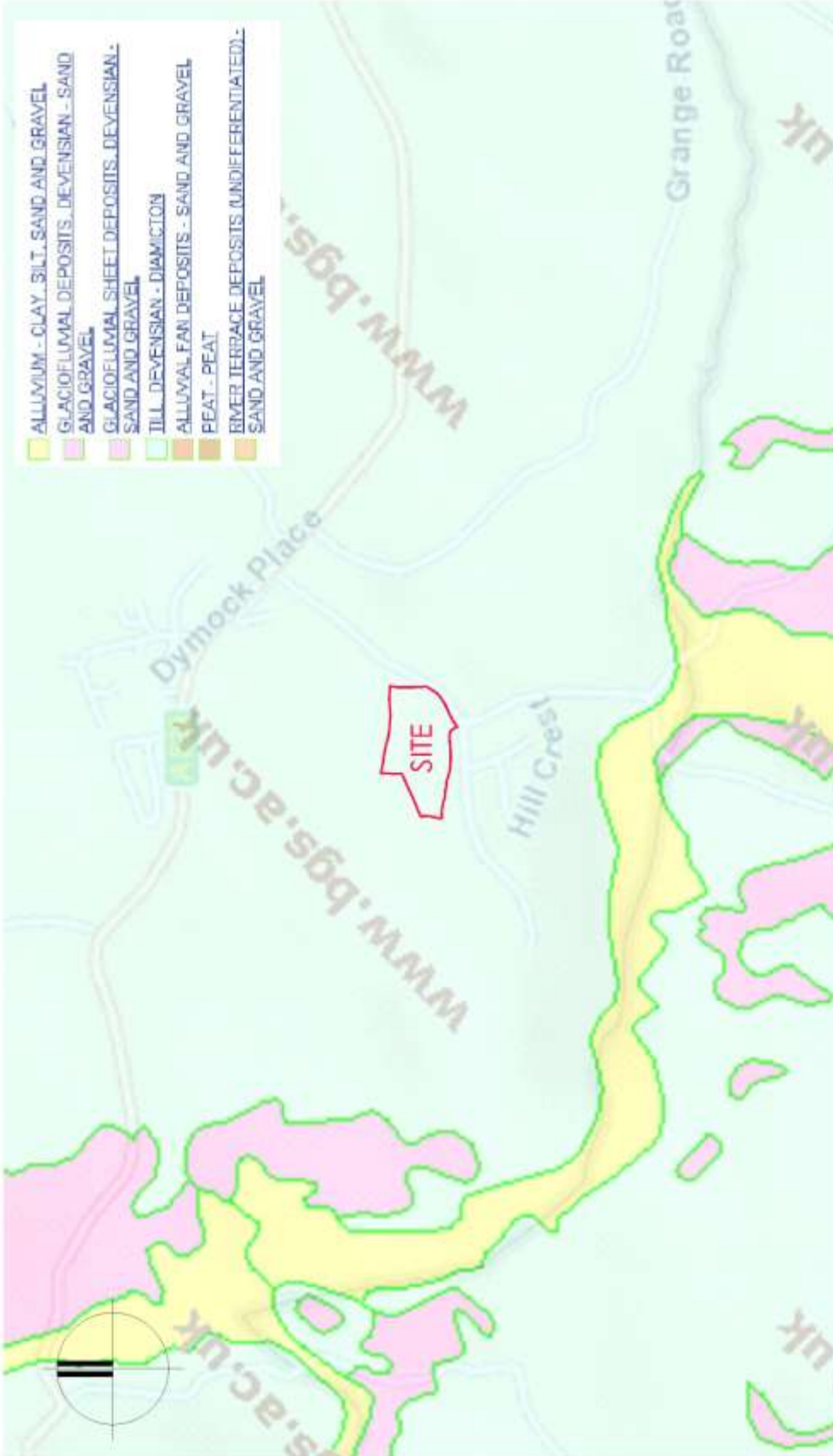
PROJECT
LAND OFF ELLESMERE LANE, PENLEY

TITLE
BRITISH GEOLOGICAL SURVEY
SOLID GEOLOGY

SCALE 1:10,000
DATE FEB 2014
DRAWN BY MLT
STAGE
REVISION

SWEETBRIAR HALL, NANTWICH, CHESHIRE CW5 5RW
TELEPHONE: 01270 624129 FACSIMILE: 01270 627684
EMAIL: ADMIN@BOWER-EDLESTON.CO.UK
WEBSITE: WWW.BOWER-EDLESTON.CO.UK

BOWER EDLESTON
ARCHITECTS



PROJECT
LAND OFF ELLESMERE LANE, PENLEY

DATE
BRITISH GEOLOGICAL SURVEY
DRIFT GEOLOGY

SCALE 1:10,000
DATE FEB 2014
DRAWN BY M.L.T.
CHECKED BY M.L.T.
REVISION

SWEETBRIAR HALL, NANTWICH, CHESHIRE CW5 5RW
TELEPHONE: 01270 624129 FACSIMILE: 01270 627684
EMAIL: ADMIN@BOWER-EDLESTON.CO.UK
WEBSITE: WWW.BOWER-EDLESTON.CO.UK

BOWER EDLESTON
ARCHITECTS



[Report an issue with this borehole](#)

»

INDUSTRIAL MINERALS ASSESSMENT UNIT BOREHOLE RECORDS

Block A

Overburden 3.4 m
Mineral 13.1 m³

© 2006 The Authors
Journal compilation © 2006 Blackwell Publishing Ltd

Geological classification	Lithology	Grading/Description							Thickness m	Depth m
		Fines			Gravel					
		Sand	Fine	Medium	Coarse	Fine	Coarse	Cobble		
Alluvium	Clay	Sandy, soft with few pebbles							3.4	3.4
Glacial Sand and Gravel	Pebbly sand	8	16	51	3	8	8	6	3.0	4.4
	Sand	3	35	62	0	0	0	0	3.0	7.4
	Sand	3	35	59	2	1	0	0	9.1*	16.5
	Mean	3	33	59	2	1	1	1		

SWELA Block A

Overburden	15.3 m
Mineral	5.3 m
Waste	4.4 m*

 Thickness | Depth |[illegible]

© 2005 Blackwell Publishing Ltd *Journal of Internal Medicine* 258: 103–110

Appendix A6

Hydrology



PROJECT
LAND OFF ELLESMERE LANE, PENLEY

TITLE
ORDNANCE SURVEY
HYDROLOGY

SCALE 1:25,000
DATE FEB 2014
DRAWN BY 4509 SK11
CHECKED BY
REVISION

SWEETBRIAR HALL, NANTWICH, CHESHIRE CW5 3RW
TELEPHONE: 01270 424129 FACSIMILE: 01270 427684
EMAIL: A.D.M.I.N @ BOWER-EDLESTON.COM
WEBSITE: WWW.BOWER-EDLESTON.COM

BOWER EDLESTON
ARCHITECTS

Appendix A7

Hydrogeology



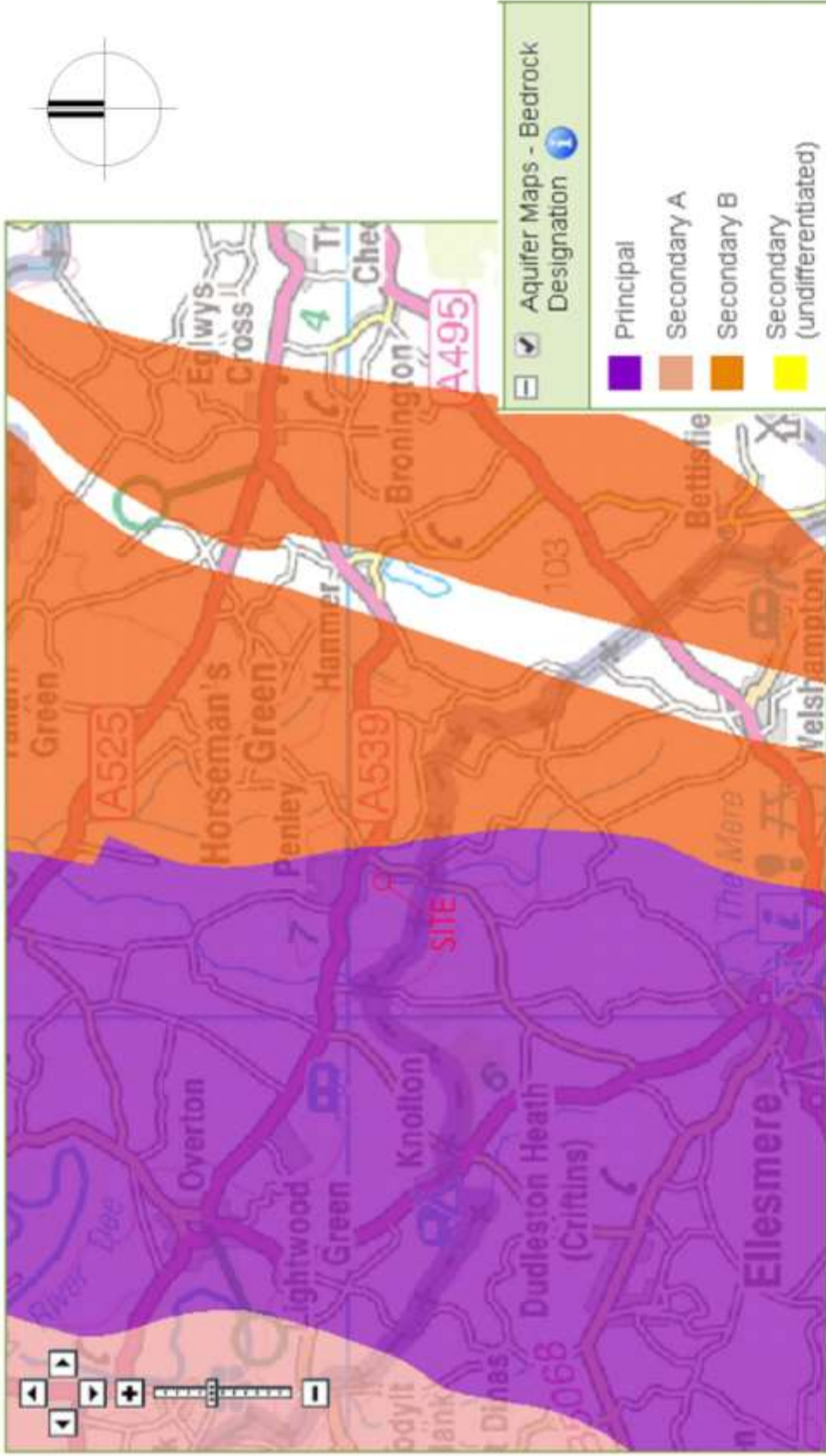
PROJECT
LAND OFF ELLESMERE LANE, PENLEY

TITLE
ENVIRONMENT AGENCY
AQUIFER MAP - SUPERFICIAL DEPOSITS DESIGNATION

SCALE: N.T.S.
DATE: FEB 2014
DRAWN BY: M.T.
CHECKED BY: S.A.C.
REVISION:

BOWER EDLESTON
ARCHITECTS

SWEETBRIAR HALL, NANTWICH, CHESHIRE CW5 3RW
TELEPHONE: 01270 424129 FACSIMILE: 01270 427684
EMAIL: A.D.M.I.N @ BOWER - EDLESTON . C O M
WEBSITE: WWW . BOWER - EDLESTON . C O M



PROJECT
LAND OFF ELLESMERE LANE, PENLEY

TITLE
ENVIRONMENT AGENCY
AQUIFER MAP - BEDROCK DEPOSITS DESIGNATION

SCALE: N.T.S.
DATE: FEB 2014
DWG NO: 4509 SK13

DRAWN BY: MLT
CHECKED: SPG
REVISION:

**BOWER EDLESTON
ARCHITECTS**

SWEETBRIAR HALL, NANTWICH, CHESHIRE CW5 3RW
TELEPHONE: 01270 424129 FAX/SVAIL: 01270 427684
EMAIL: A.D.M.I.N @ BOWER-EDLESTON.COM
WEBSITE: WWW.BOWER-EDLESTON.COM

Appendix A8

Flood Risk Assessment



PROJECT
LAND OFF ELLESMERE LANE, PENLEY

TITLE
ENVIRONMENT AGENCY
FLOOD RISK ASSESSMENT

SCALE: N.T.S.
DATE: FEB 2014
DRAWN BY: M.T.
CHECKED BY: M.T.
REVISION:

SWEETBRIAR HALL, NANTWICH, CHESHIRE CW5 3RW
TELEPHONE: 01270 424129 FACSIMILE: 01270 427684
EMAIL: ADMIN@BOWER-EDLESTON.CO.UK
WEBSITE: WWW.BOWER-EDLESTON.CO.UK

**BOWER EDLESTON
ARCHITECTS**

Appendix A9

Groundwater Protection, Groundwater Vulnerability Zones & Nitrate Vulnerability Zones



PROJECT
LAND OFF ELLESMERE LANE, PENLEY

TITLE
ENVIRONMENT AGENCY
GROUNDWATER SOURCE PROTECTION ZONE

SCALE 1:50,000 @ A4
DATE FEB 2014
DRAWN BY M.T.
CHECKED BY
REVISION

SWEETBRIAR HALL, NANTWICH, CHESHIRE CW5 3RW
TELEPHONE: 01270 424129 FACSIMILE: 01270 427684
EMAIL: A.D.M.I.N @ BOWER-EDLESTON.COM
WEBSITE: WWW.BOWER-EDLESTON.COM

BOWER EDLESTON
ARCHITECTS



PROJECT
LAND OFF ELLESMERE LANE, PENLEY

TITLE
ENVIRONMENT AGENCY
GROUNDWATER VULNERABILITY ZONE

SCALE 1:50,000 @ A4

DRAWN BY MLT

DATE FEB 2014

SCALE

IMAGE NO 4509 SK16

REVISION

SWEETBRIAR HALL, NANTWICH, CHESHIRE CW5 3RW
TELEPHONE: 01270 424129 FACSIMILE: 01270 427684
EMAIL: A.D.M.I.N @ BOWER-EDLESTON.COM
WEBSITE: WWW.BOWER-EDLESTON.COM

BOWER EDLESTON
ARCHITECTS



PROJECT
LAND OFF ELLESMERE LANE, PENLEY

TITLE
ENVIRONMENT AGENCY
NITRATE VULNERABLE ZONE

SCALE 1:50,000 @ A4
DATE FEB 2014
DRAWN BY M.T.
CHECKED BY
REVISION

SWEETBRIAR HALL, NANTWICH, CHESHIRE CW5 3RW
TELEPHONE: 01270 424129 FACSIMILE: 01270 427684
EMAIL: A.D.M.I.N @ BOWER-EDLESTON.COM
WEBSITE: WWW.BOWER-EDLESTON.COM

BOWER EDLESTON
ARCHITECTS

Appendix A10

Waste Disposal Activities



PROJECT
LAND OFF ELLESMERE LANE, PENLEY

ENVIRONMENT AGENCY
WASTE DISPOSAL - LANDFILL SITES

SCALD	1:50,000 @ A4	DATE	FEB 2014	MLT	DATE IN FILE
		DATE	FEB 2014		STAGE
		DATE	FEB 2014		REVISION

SWEETBRIAR HALL, NANTWICH, CHESHIRE CW5 5BW
TELEPHONE: 01270 624129 FACSIMILE: 01270 627664
EMAIL: A.D.M.I.N@BOWER-EDLESTON.COM
WEBSITE: WWW.BOWER-EDLESTON.COM

BOWER EDLESTON
ARCHITECTS

Appendix A11

Pollution Incidents



PROJECT
LAND OFF ELLESMERE LANE, PENLEY

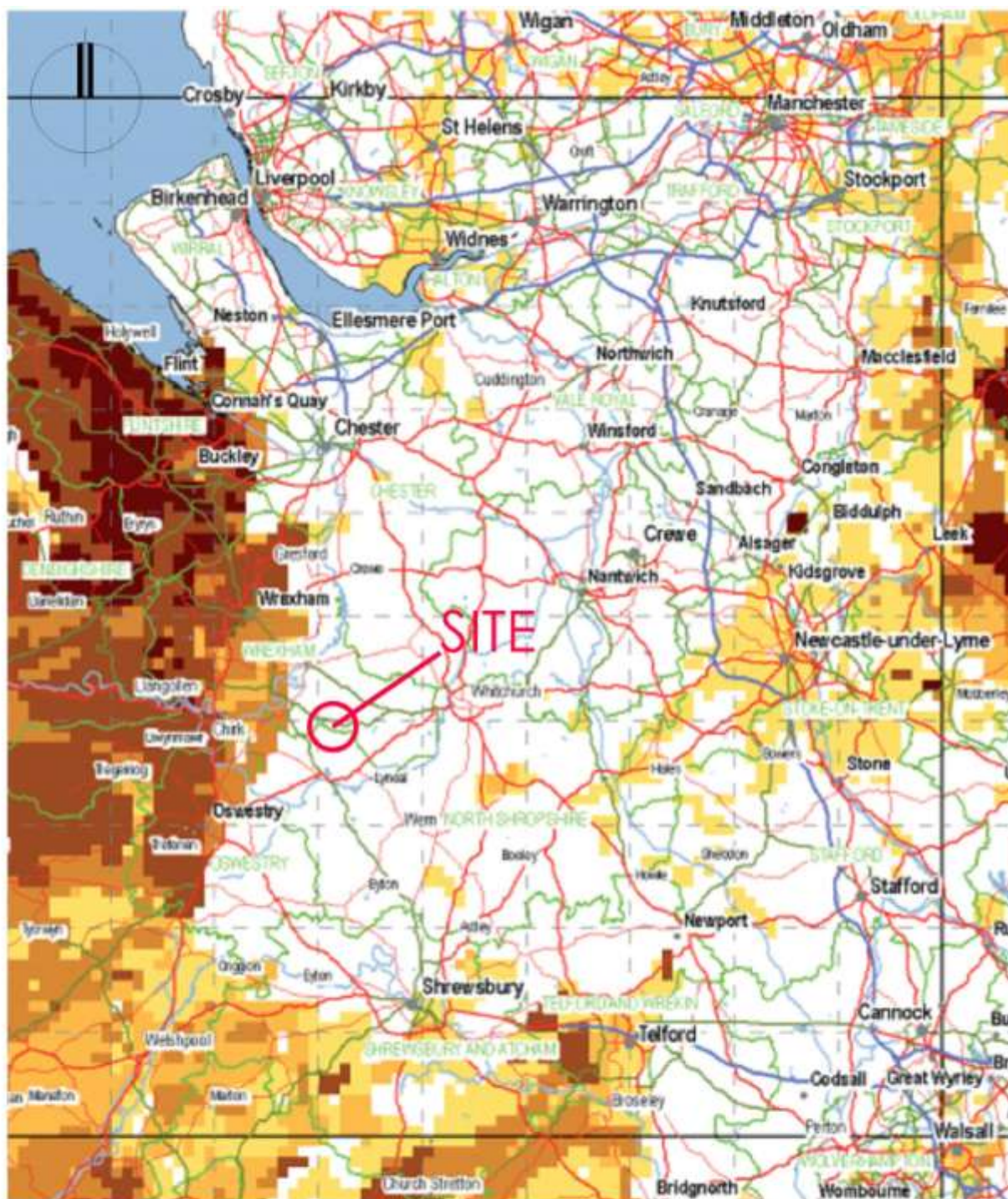
TITLE
ENVIRONMENT AGENCY
POLLUTION INCIDENTS

SCALE 1:50,000 @ A4
DATE FEB 2014
DRAUGHTSMAN M.T.
CHECKED S.A.C.
REVISION

BOWER EDLESTON
ARCHITECTS
SWEETBRIAR HALL, NANTWICH, CHESHIRE CW5 3RW
TELEPHONE: 01270 424129 FACSIMILE: 01270 427684
EMAIL: A.D.M.I.N @ BOWER-EDLESTON.COM
WEBSITE: WWW.BOWER-EDLESTON.COM

Appendix A12

Radon



PROJECT
LAND OFF ELLESMERE LANE, PENLEY

TITLE
PUBLIC HEALTH ENGLAND
INDICATIVE RADON MAP

SCALE 1:500,000 @ A4
DATE FEB 2014
Dwg No 6509 SK20

DRAWN BY MLT
STAGE
REVISION
SWEETBRIAR HALL, NANTWICH, CHESHIRE CW5 8RW
TELEPHONE: 01270 624129 FACSIMILE: 01270 627684
E MAIL: ADMIN @ BOWER-EDLESTON.COM
WEBSITE: WWW.BOWER-EDLESTON.COM

BOWER EDLESTON
ARCHITECTS

Appendix A13
Defra MAGIC Interactive Mapping Data

Site Check Report Report generated on Fri Feb 07 2014
You selected the location: Centroid Grid Ref: undefined
The following features have been found in your search area:

Tree Sparrow (England)

Species	Tree Sparrow
Data Collation Period	2005-2009 (plus any 2010 data available)

Soilscape (England)

Reference	18
Name	SLOWLY PERMEABLE SEASONALLY WET SLIGHTLY ACID BUT BASE-RICH LOAMY AND CLAYEY SOILS
Main Surface Texture Class	LOAMY
Natural Drainage Type	IMPEDED DRAINAGE
Natural Fertility	MODERATE
Characteristic Semi-natural Habitats	LOWLAND SEASONALLY WET PASTURES AND WOODLANDS
Main Land Cover	GRASSLAND AND ARABLE SOME WOODLAND
Hyperlink	data_for_magicsoilscape_summary.pdf

Dudley Stamp Land Use Inventory (England)

Land Use Class	6
----------------	---

Geological Places to Visit (England)
No Features found

Geological Descriptions (England)
No Features found

National Character Areas (England)
No Features found

Natural Areas (England)
No Features found

2001 Settlements (England)
No Features found

Post 1988 Agricultural Land Classification (England)
No Features found

Landscape Typology (England)
No Features found

Environmental Stewardship Agreements (England)
No Features found

Environmentally Sensitive Area Agreements (England)
No Features found

Countryside Stewardship Agreements (England)
No Features found

Higher Level Stewardship Target Areas (England)
No Features found

Higher Level Stewardship Themes (England)
No Features found

English Woodland Grant Schemes (England) - points
No Features found

English Woodland Grant Schemes (England)
No Features found

Woodland Trust Sites (England) - points
No Features found

Woodland Trust Sites (England)
No Features found

Forest Plans (England)
No Features found

Felling Licence Agreements (England) - points